

1-4 Composition of Functions

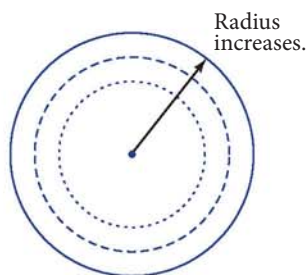


Figure 1-4a



If you drop a pebble into a pond, a circular ripple extends out from the drop point (Figure 1-4a). The radius of the circle is a function of time. The area enclosed by the circular ripple is a function of the radius. Thus area is a function of time through this chain of functions:

- Area depends on radius.
- Radius depends on time.

In this case the area is a **composite function** of time. In this section you will learn some of the mathematics of composite functions.

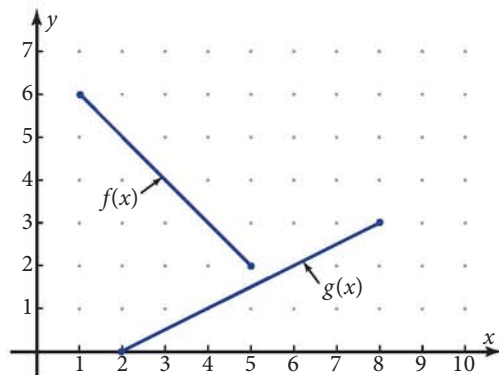
Objective

Given two functions, graph and evaluate the composition of one function with the other.

In this exploration, you'll find the composition of one function with another.

EXPLORATION 1-4: Composition of Functions

1. The figure shows two linear functions, f and g . Write the domain and range of each function.



2. Read values of $g(x)$ from the graph and write them in a copy of this table. If the value of x is out of the domain, write "none."

x	$g(x)$
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	

continued